Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC

In the matter of:	)	
	)	
Amendment of Part 97 of the Commission's	)	
Rules Governing the Amateur Radio Service	)	RM-11828
Rules Concerning Permitted Emissions and	)	
Operating Privileges for Technical Class	)	
Licenses.	)	

COMMENTS OF REC NETWORKS
AND MICHELLE BRADLEY, KU3N

1. REC Networks (REC) is a leading advocate for a citizen's access to spectrum. This includes issues related to the Amateur Radio Service. REC's founder, Michelle Bradley, KU3N, holds an Amateur Extra class license and has been licensed since 1987.

A. OVERVIEW

2. In the above captioned petition (Petition), ARRL, the national association for Amateur Radio (ARRL) has proposed to make changes to the Technician class license to "add limited High Frequency (HF) data and telephony privileges", that this action "will enhance the available license operating privileges in what has become the principal entry-level license class in the Amateur Service", "attract more newcomers to Amateur Radio", "result in increased retention of licensees who hold Technician Class licenses" and will provide "an improved incentive for entry-level licensees to increase technical self-training and pursue higher license class achievement and development of communication skills."[1] ARRL further states that its proposal is "critical to developing improved operating capabilities, increasing emergency communications participation, improving technical self-training and increasing growth overall in the Amateur Radio Service".[2]

[1] - *Petition* at p. 1.

[2] - *Id.* at p. 1-2.

3. Specifically, this petition calls for two significant changes:

Increased HF telephony privileges – Under the ARRL's proposal, Technician class amateurs would be given access for the first time to 3900-4000 kHz, 7225-7300 kHz in ITU Region 2 only and 21350-21450 kHz.

Data privileges on HF bands – Under the ARRL's proposal, Technician Class licensees (and not Novice Class licensees) will be permitted to operate data in addition to CW in the current Novice/Technician segments of the 80, 40 and 15-meter bands.

B. INCENTIVE LICENSING SYSTEMS ARE CONSISTENT WITH THE BASIS AND PURPOSE OF THE AMATEUR RADIO SERVICE

4. Section 97.1 states that the Amateur Radio Service has a fundamental purpose in various principles including the encouragement and improvement through rules which provide for advancing skills in both the communication and technical phases of the art.[3]

5. When the concept of "incentive licensing" was first proposed in the 1960s, the goal of the concept was to encourage self-improvement of Amateur Radio operators by qualifying for higher class licenses.[4] In 1987 when the Commission expanded the privileges of the Novice Class licenses, it did so to "create a new desire for new entrants into amateur radio to stay with the hobby and advance through its five-tier licensing structure".[5]

6. In an incentive environment, there must be a significant incentive to attract the licensee to the next highest license class. When *Novice Enhancement* was adopted, we were in the peak of a sunspot cycle and there was a significant amount of activity on the 10-meter band. It also included privileges on the 1.25 meter and 23-centimeter bands which gave Novices experience with modes such as voice repeaters, FM simplex, packet radio and even some limited experience with fast-scan amateur television and weak signal. The 1987 Novice Class license gave a full taste of

[3] - See 47 C.F.R. §97.1(c).

[4] - See *Proposed Incentive Licensing and Distinctive Call Signs,* Notice of Proposed Rulemaking, 30 FR 4496 (1965) at para 2.

[5] - See *Amendment to the Amateur Radio Service Rules to Expand the Privileges Available to Novice Operators,* 2 FCC Rcd. 727 (1987) ("*Novice Enhancement"*) at para. 2.

amateur radio, but it was missing some coveted aspects of the service such as access to the 2-meter and 70 cm bands, the ability to operate higher power and the ability to adequately operate satellites, thus prompting the desire to upgrade.

7. In the days of *Novice Enhancement*, the incentives for upgrade were primarily as follows:

Novice Class to Technician Class – Access to the 6 and 2 meter and 70 cm bands as well as access to the full 1.25 meter and 23 cm bands, full access to microwave spectrum, the ability to operate a repeater or auxiliary station and the ability to get a 1x3 call sign (such as N6UII).

Technician Class to General Class – Access to HF bands using phone, data (on bands other than 10m), RTTY and image and access to the full 10-meter band including repeaters; the ability to be a volunteer examiner for Novice Class candidates.

General Class to Advanced Class – Access to additional HF sub-bands; the ability to get a "2x2" call sign (such as KJ7MU) and the ability to be a volunteer examiner for Technician class candidates.

Advanced Class to Amateur Extra Class – Access to remaining HF sub-bands, the ability to become a volunteer examiner for all license classes and the ability to obtain a "1x2" or "2x1" call sign (such as W1AW, KU3N).

8. Through the former 5-step incentive licensing system, there were definitely significant gaps in privileges between the classes. Under the current structure, other than the ability to upgrade into Advanced, the gaps remain the same. If we look at the instant petition in the same manner, this is what the "gaps" would look like:

Entry Level: Technician Class License - Access to all bands above 30 MHz along with the ability to use all modes in that spectrum; the ability to use CW and data (but not RTTY) on sub-bands in the "CW" sections of 80, 40 and 15 meters; access to small sub-bands in the 80, 40 and 15 meter bands for phone; access to the 10-meter band for phone, CW and data.

Technician Class to General Class – Additional sub-bands for phone and CW/data on 80, 40 and 15 meters; the ability to use RTTY and image in the HF bands; new access to the 160, 60, 20, 17 and 12 meter bands; access to the MF and LF allocations.

General Class to Amateur Extra Class – Full access to all designated bands and modes; the ability to be a volunteer examiner for all license classes and the ability to obtain a "1x2" or "2x1" call sign.

C. ENTRY-LEVEL PRIVILEGES SHOULD FOCUS ON MODERN SCIENCE, TECHNOLOGY, ENGINEERING AND MATH (STEM) SUBJECTS AND EMERGING TECHNOLOGY

9. REC supports the growth of Amateur Radio and its inclusion in an overall curriculum of science, technology, engineering and mathematics (STEM) and we especially encourage the participation of women and girls in STEM subjects and their applications using Amateur Radio. REC feels that the *Petition* will open up the ability for entry level amateurs to explore data modes such as FT8 which are designed for low transmitter powers and weak signal reception. In the HF spectrum, this type of weak signal work forms new challenges especially in efficient antenna design. Phone, on the other hand, is nearly a century-old method of communication, whether using AM or single sideband emission where the overall challenges and frontiers are very limited.

D. THE ARRL PETITION DOES NOT PROVIDE ENOUGH "GAP" BETWEEN THE TECHNICIAN AND GENERAL CLASS THUS REDUCING THE INCENTIVE TO UPGRADE

10. Based on the current usage of the HF bands for phone, having a phone privilege for the Technician Class would only increase the "comfort" level for licensees and not give them a significant incentive to upgrade, especially incumbent licensees who have not demonstrated through testing their aptitude to the additional operating privileges being conveyed in the *Petition*, especially where it pertains to phone operations. The ability to use phone on HF bands other than 10 meters should be a "coveted" and compelling reason for the Technician Class licensee to upgrade to a General Class license. We saw a similar behavior with *Novice Enhancement* in areas such as Southern California, which in the late 1980s had a very strong scene of repeater use on the 1.25-meter (220 MHz) band. At the time, there were many amateurs who never had the desire to upgrade from Novice to Technician because they only wanted a license to "rag chew" on 220.

Unlike 220 MHz, the 80, 40 and 15 meter bands are already very well utilized and the chance of licensees establishing a comfort zone with no real incitement to upgrade is far greater.

E. REC SUPPORTS TECHNICIAN AND NOVICE CLASS LICENSES BEING ABLE TO ACCESS DATA MODES ON HF, BUT WE DO NOT SUPPORT ADDITIONAL HF PHONE ON THE ENTRY-LEVEL LICENSE

11. Going back to §97.1 that identifies several attributes to the Amateur Radio Service including being the continuation and extension of the amateur's ability to contribute to the radio art, advancing skills in both the communications and technical phases of the art as well as providing a pool of trained operators, technicians and electronics experts.[6] As we have stated, the best opportunities for the enhancement of STEM through amateur radio is exploration on spectrum above 30 MHz as well as through the experimentation of new digital modes within the HF spectrum. Those who are involved in emergency communications can first obtain their skills on VHF and then through the upgrade of their license to General, advance further into HF emergency communications and traffic handling. Instead of crutching Amateur Radio even further, the ARRL should be encouraging Amateur Radio Emergency Service (ARES) team members to upgrade to General Class licenses. In this way, the ARRL is giving inexperienced ARES operators a free pass to HF.

F. CONCLUSION

12. The ARRL has been historically a HF-focused organization. For decades, the ARRL's support of the spectrum above 30 MHz has been substantially limited. The ARRL was single-handedly responsible for the loss of the 220~222 MHz band. ARRL is not only supported by its membership but is also supported by the manufacturers of equipment used in the Amateur Radio Service. Therefore, it is an incentive to ARRL and the manufacturers to "sweeten the pot" for the entry level in order to market HF transceivers and to increase ARRL membership numbers, even among current Technician Class amateurs that are primarily on VHF and UHF at this time, but would otherwise consider membership in ARRL due to their support of HF operation. We need to attract STEM students and graduates into the hobby through giving them spectrum to "tinker" with. This can be achieved with the existing Technician Class license and can be further enhanced

[6] - 47 C.F.R. §97.1.

by extending data privileges to HF. The ability to "rag chew" and "work DX" on HF phone should continue to be a major step in the advancement of the amateur and should not be spoon-fed from the get-go.

13. With that said, REC supports the ARRL's *Petition* in respect to adding data to the privileges of Technician Class (and Novice Class) amateurs in the current "Novice/Technician" CW sub-bands however, we do not support the ARRL's *Petition* in respect to adding new HF phone privileges on 80, 40 and 15 meters. This should be something amateurs should work harder to achieve through upgrading to General Class.

Respectfully submitted,

/S/
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